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SCIENTIFIC AND TECHNICAL NEWS BRIEFS

FROM KUANG-MING JIH-PAO

- COMMUNIST CHINA -

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FROM KUANG-MING JIH-PAO

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[The following are translation of selected items from various December 1960 issues of the above-mentioned newspaper.]

CONTENTS

<u>Article</u>	<u>Page</u>
Peiping Agricultural College Succeeds in Making Smallpox Vaccine for Sheep	1
Kwangtung Province Promotes Use of Herbs for Treating Illness	2
Sian Telecommunications Academy Makes Sensitive Thermometer	4
Excellent Prospects in The Development and Use of Tropical Biological Resources in Fukien	5
Growing Two-Crop "Ch'ing-K'o" Successful on Tibetan Plateau	7
Geographical Sciences Serves Agriculture	8
Large Collection of Samples Acquired in Honan by Research Institute of Botany, Academia Sinica	11
Good Results Achieved by Inner Mongolia College of Forestry in General Survey of Wild Plants	13

PEIPING AGRICULTURAL COLLEGE SUCCEEDS IN
MAKING SMALLPOX VACCINE FOR SHEEP

[Following is a translation of an article by
Chang Yao-tsung in Kuang-ming Jih-pao, 10
December 1960, page 2.]

The Veterinary Research Institute (So), Peiping College of Agricultural Sciences, has succeeded in making smallpox vaccine for sheep and has proceeded to teach the manufacturing technique and the method of application to those suburban areas that are engaged to a great extent in the rearing of sheep.

Smallpox in sheep is a contagious disease. The sheep suffering from the disease loses weight and wool and some even become blind. The female becomes infertile and loses the ability to secret milk. This can easily lead to the development of other diseases and finally to death of the animal.

To prevent the disease and its spread, the Veterinary Research Institute began work on making the vaccine in May 1959. After more than a year of hard work, including data collection and the control of vaccine concentration, the researchers, under the leadership of the Party, finally achieved success. It has been determined that the duration of immunity in sheep is one year and in goat seven months.

To help the various sheep rearing units make the vaccine themselves and know how to use it, the Agricultural College conducted an exhibition at the Men-t'ou-kou Commune on 15 November with veterinary personnel of Men-t'ou-kou, Ping-ku and Yen-ch'ing invited. Technicians of the veterinary institute explained the principles of vaccine-making and demonstrated the techniques. Finally, the vaccine made at the demonstration was inoculated into more than 120 sheep and goats of the Tung Hsin-fang Contingent of Men-t'ou-kou Commune as another demonstration.

10,122
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KWANGTUNG PROVINCE PROMOTES USE OF HERBS
FOR TREATING ILLNESS

[Following is a translation of an article submitted by the Kwangtung Health Department Reporting Team in Kuang-ming Jih-pao, 11 December 1960, page 2.]

For the further propagation of the use of herbs, the Health Department of Kwangtung Province held a conference in Canton City recently to discuss the past experience in the propagation of the use of herbs. At the conference, the results of the use of herbs were confirmed and many suggestions made for future work in herbs.

In recent years, because of the attention of the Party to work in herbs, the curing of diseases by herbs have been very effective in various areas of Kwangtung. At present in the province, there are about 8,000 Chinese traditional physicians (commonly known as herbalists) who employ herbs in treatment of illness. A considerable number of them are being employed in clinics of various levels and in communes. Many of the herbalists are now participating in agricultural production and use their spare time for treating sick members of communes.

Many prescriptions are now widely employed in various places. In the hsien of Lien-chou, Yang-shan, Hua-chou and K'ai-ping, numerous diseases have been cured by the method of a herbal steam bath. Herbs are most effective against rheumatism, common cold and hepatosis. The treatment of hookworm with native nepeta japonica, diphtheria with native achyranthes bidentata in Hsin-hui, hepatitis with "Chi-huang" and "Chi-ku-ts'ao" [names of herbs] in Canton City, intestinal inflammation and diarrhea with roots of polygonum flaccidum and purslane, pertussis with "O-pu-shih-ta'ao" in Fu-shan, tuberculosis with wild colocasia antiquorum in Shant'u and K'ai-ping, and the treatment of snake bites with "Ho-hsiao-shang" have been reported as effective.

The use of herbs to cure is widely welcomed by the masses because of its economy, the abundance of herbs, and the simplicity of method which the people easily comprehend.

In Tseng-ch'eng Hsien, many herb stations have been set up in many of the communes. In Li-wan Ch'u of Canton City many drugs have been saved due to the extensive use of herbs in the recent two years. Now in Canton City the number of people who use herbs to cure has greatly increased.

To summarize past experience in order to improve work in herbs, the Kwangtung Department of Health held a conference on the promotion of herbs in mid-November in Canton City. At the conference, the accomplishments of various areas were confirmed, but at the same time it was pointed out that some health cadres have underestimated the value of herbs. This tendency must be overcome. The conference suggested a few concrete points on the improvement of work of herbs:

(1) Strengthen the leadership of the Party and secure rational arrangement for work and the living of herbalists so that the cooperation between doctors of the Western school and those of Chinese medicine will be fortified.

(2) Actively promote the experience of organizing herb stations gained in Tseng-ch'eng and Hsin-hui. Attract more herbalists to participate in the extension of herb use. In the organization of herb stations more experienced herb collectors should be mobilized so that coordination will be maximized.

(3) Inform the public of the effectiveness of herbs and encourage the exchange of experience.

(4) Pharmaceutical departments should improve their work in the purchase and supply of herbs.

(5) Develop the search for pharmaceutical herbs and strengthen research in those herbs that are found effective.

10,122
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SIAN TELECOMMUNICATIONS ACADEMY MAKES
SENSITIVE THERMOMETER

[Following is a translation of an unsigned article in Kuang-ming Jih-pao, 12 December 1960, page 3.]

Recently, workers of an affiliated factory of the Sian Telecommunications Academy (Yu-tien Hsueh-yuan) succeeded in making a type of heat sensitive thermometer. This was made by putting copper and manganese, containing chemicals that are very sensitive to heat, into an iron tube of ten millimeters diameter and one meter length. When the tube is inserted into a grain pile in storage it quickly indicates the grain temperature. The use of the thermometer by grain control departments would quickly ascertain the condition of grain in storage and prevent rotting. At present, the factory is preparing for production.

10,122
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EXCELLENT PROSPECTS IN THE DEVELOPMENT AND USE OF TROPICAL BIOLOGICAL RESOURCES IN FUKIEN

[Following is a translation of an unsigned article in Kuang-ming Jih-pao, 19 December 1960, page 2.]

Excellent results have been received by the South China Tropical Biological Resources Comprehensive Surveying Team of the Academia Sinica in a relatively large scale survey in Fukien.

Participating in this survey were some 200 specialists in geography, climatology, soil science, botany, tropical agriculture, bacteriology, zoology, geology, surveying and economic geography. These specialists came from 29 research institutes, higher level schools and various operational departments of Kwangtung, Fukien, Kiangsi, Kiangsu, Liaoning and Peiping. Also joining in this survey were: Kwangtung Geography Research Institute of Academia Sinica, South China Botanical Research Institute, Pedology Research Institute, Forestry and Pedology Research Institute, South China Sub-tropical Crop Institute of the Ministry of Agricultural Reclamation, Chung-shan University, Kwangtung Normal College, Fukien Normal College, the University of Amoy and the local agricultural departments.

The survey was carried out from May 1960 to the middle of October 1960. The areas under investigation included 5 special districts, 32 hsien, and cities and 260 or more communes, farms, and forests in the southeastern part of Fukien. To concentrate strength, the team centered attention on the investigation and study of the resources of tropical plants. The results are that biological resources in these areas are very abundant, that natural environment is excellent and therefore much can be done on the development and the use of tropical plant resources.

The geographical team investigated the geological structure in areas along the coast of Fukien. In the past the geological structure of these areas was thought of as belonging to the Cambrian Period of the Paleozoic Era but the recent survey showed that it belongs to the Cretaceous Period of the Mesozoic Era. The survey established important

scientific basis for future surveys of mineral resources. The zoological team, through tracing and observation as well as inquiries of the local public, came to a preliminary understanding of wild life in certain areas. This lays the foundation for future breeding purposes. The fungus team carried out its investigations in Nan-p'ing and Lung-ch'i. The team summarized mass experience in the cultivation of fungi and mushrooms for food and certain bacteria for clinical use.

On the basis of these investigations, the comprehensive surveying team compiled eleven reports on tropical plant, zoological, bacteria and fungi resources, on geology and other special reports. Many diagrams and tables were drawn and information was provided to the various special districts, hsien and cities.

10,122
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GROWING TWO-CROP "CH'ING-K'O" SUCCESSFUL ON
TIBETAN PLATEAU

[Following is a translation of an unsigned article from Kuang-ming Jih-pao, 21 December 1960, page 1.]

Tibetan farmers in Ch'ia-je Ch'u, Lang-ch'ia-tzu Hsien, and in Ma-ni Hsiang of Ch'ang-tu Hsien have succeeded in planting "ch'ing-k'o" [a type of grain] in two crops. Out of 56 k'o (one k'o is approximately equal to one mou) in Ch'ia-je Ch'u, 14 k'o of the second crop were successful. On the average, every k'o yields three k'o (about 26 chin per k'o). In this ch'u, the P'a-pa Hsiang Mutual Aid Team No. 2 harvested 13 k'o for the first crop and more than four k'o for the second crop. In Ma-ni Hsiang a second crop of "ching-k'o" was planted on one k'o, with yields of three ton per k'o (one ton is about 20 chin). Before this, 20 ton per k'o had already been obtained from the first crop.

There was never a harvest of two crops of "ch'ing-k'o" on the Tibetan Plateau before, but after the trial it was proved that a two crop harvest in one year or a three crop harvest in two years can be realized on the plateau or similar regions instead of a one crop annual harvest. Ch'ia-je Ch'u Lang-ch'ia-tzu Hsien is situated in the valley near the banks of the Ya-lu-tsang-pu River. Its altitude above sea-level is higher than that of the regions of Shan-nan and Lin-chih Special District next to the river banks. Its climate and altitude are similar in general to that of the Lhasa Plain. The Je-ma Mutual Aid Team of Ma-ni Hsiang is situated in the upper reaches of the Lan-ts'ang River. The climate is similar to that of regions along the Chin-sha River, Lan-ts'ang River and Nu River in eastern Tibet.

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GEOGRAPHICAL SCIENCES SERVES AGRICULTURE

[Following is a translation of an unsigned article in Kuang-ming Jih-pao, 22 December 1960, page 2.]

The Geographical Society of China held a conference recently in Ch'ang-ch'un to exchange experience in devoting geographical sciences to the better service of agriculture and to discuss economic construction in communes and regional planning. Attending the conference were representatives of geographical societies from 24 provinces, cities, and autonomous districts, and from 18 special districts, hsien, communes and production units and some 100 or more representatives from geographical research organs and the departments of geography various higher schools.

At this conference, the results and experience gained by the geographical societies of various locations in their service to agricultural production were exchanged and examined. The line along which geographical sciences are to serve agriculture was more clearly and accurately confirmed. The areas and methods of work in the society were enriched, providing conditions for further development of mass activities in geographical sciences and technology.

At the conference, representatives of the geographical societies from 17 provinces, cities, autonomous districts and communes, including Kansu, Hopei, Honan, Kirin and Luta, gave accounts of the situations and experience of their work in agricultural production. From their speeches, it was clearly seen that in recent years the geographical societies of various locations have actively engaged in efforts to improve agriculture.

The broad masses of geographical workers penetrated into the rural communes, coordinated communal economic construction, land utilization, land improvement, soil survey and improvement, investigated land resources and rational use, wild plant life and comprehensive use, established weather and forecasting stations, fought early and late frost, promoted early ripening of crops, improved cultivation systems, investigated and reclaimed wasteland, studied flood prevention.

and control, thaws, soil and water conservation, etc.

They made many contributions by collecting experience from the masses, at the same time popularizing knowledge in geographical sciences, and encouraging the training of technical personnel. The conference unanimously agreed that the most distinguished results in the support of agriculture were achieved by the Kirin Geographical Society whose experience consequently gained the attention and compliment of all present.

During the conference, an important activity in support of agriculture was discussed, namely, economic construction and regional planning in communes, along with the necessary research into the content and methodology upon which this planning is to be based. Through discussion it was clearly established that the present stage of communal economic planning should be centered on land utilization, with the over-all goal of developing an agricultural production based on grain.

Regional planning work is the strategy of establishing a whole, well-rounded economy within the scope of a given area. In the past, industrial planning was the core, but in the future agriculture is to be the basis and is to be placed in the fore-front.

Some of the methods of planning discussed at this time were that these methods should be derived from actual practical work; others held that methodology should involve scientific deduction from the analysis of both subjective and objective factors. Hence, it is necessary that the practical side be further penetrated and that methodology be further enhanced by being one with the masses.

To satisfy the needs of the communes and working departments for relatively systematic methods of planning, the conference resolved to devote and concentrate some of its efforts to compiling documents on the methodology.

On the basis of past experience and results, the duties of the geographical workers in the future were proposed. All agreed that the program of the Party to develop the national economy with agriculture as the basis, is the fundamental strategical direction of socialist construction in China. For this reason, geography to serve agriculture is a long term assignment for geographical workers. From now on the main starting points should be the three aspects of soil, water and climate, emphasizing the rational usage of land resources such as the improvement of soil, reclamation of wastelands, survey of water sources, establishment of irrigation, prevention of flood, weather forecasts, control of wind and frost. At the same time, the development

of economic and regional planning in communes should be further expanded and on the basis of practicality, theoretical research should be strengthened.

10,122
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LARGE COLLECTION OF SAMPLES ACQUIRED IN HONAN BY
RESEARCH INSTITUTE OF BOTANY, ACADEMIA SINICA

[Following is a translation of an unsigned
article in Kuang-ming Jih-pao, 23 December
1960, page 1.]

The Institute of Botany and other related units of the Academia Sinica has sent out a botanical resources team to the Fu-niu-shan area of Honan Province to investigate and study plant distribution and botanical resources (especially wild plants). Now the mission has been completed and good results have been achieved.

The natural distribution of plants and botanical resources are very rich in Fu-niu-shan. Among them are wild plants containing starch, oils, fiber, and rubber plants and pharmaceutical plants. On the mountains there are numerous wild fruits. The Ma-shan-k'ou Commune in this area has established wineries to make wine from wild fruits. A very tasty wine has been made from Actinidiaceae which is found growing on the mountains.

Between May and October, the Botany Research Institute of the Academia Sinica, the Northwest Research Institute of Agricultural Pedology, the Northeast Research Institute of Forestry and Pedology and the Peking College of Agriculture sent out teams of research and technical workers to join with related institutes in Honan Province, Nan-yang Special District and Lo-yang Special District, in the investigation of Fu-niu-shan.

After studying twenty or more areas, they have basically come to the understanding of the distribution of plants in Fu-niu-shan. They have also collected samples of moss (No. 486) and plants belonging to the Pteridophyta and seed plants (No. 2686). In addition there were 92 kinds of wild plants of economical significance. They also studied and ecology and biological characteristics of plants which constitute the main resources. By doing so they have provided information to later botanical research.

The primary characteristic of the recent investigation is its close association with production. During the process

of planning, there was close association with local production duties. For example, when the team was working in Huang-shih-an Ch'u of Hsi-hsia Hsien they helped the local forestry sites in accelerating the processing of wild botanical resources; they set up short-time training classes to teach special knowledge in the investigation of plants, their collection and more efficient working processes, so that the personnel in the forest areas could basically master these various methods. In doing so the work on the over-all use of wild plants was further promoted.

In another instance, when they were working in the Miao-tzu Hsiang of Sung Hsien, they joined the commune production teams, in accordance with the present principle that agriculture and grain should be developed at full speed, and they ate, lived and worked together with the farmers. With the farmers they investigated wild botanical resources in terms of their starch, fiber and fat content. A handbook was also compiled on the work of investigation which can be used by the public. Based on the present and the future plans of the communes, the team has submitted opinions on the management of agriculture, forestry, animal rearing, and other subsidiary lines. In addition, suggestions were made on how to make use of the uncultivated hills.

During the investigation, this team placed great emphasis on the training of personnel. In the field they set up classes for younger teammates to listen to lectures given by experienced scientists. Botanist Hou Hsueh-yu 侯學儒 once gave an on-the-spot basic introduction to botany and read a paper on "Principles and System of Classification of Plants."

The survey has now been completed. Chemical analysis of the samples collected is now underway to make preparation for further research.

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GOOD RESULTS ACHIEVED BY INNER MONGOLIA
COLLEGE OF FORESTRY IN GENERAL SURVEY
OF WILD PLANTS

[Following is a translation of an article
in Kuang-ming Jih-pao, 23 December 1960,
page 1.]

Teachers and students of the Inner Mongolia College of Forestry has organized a team of over 100 people for the general investigation of wild plants. Twice the team has gone to T'o-pei-erh, Che-li-mu and Chao-wu-ta leagues to carry out their work. In these two investigations, the team discovered several hundreds of wild plants of economic significance, many of which can be used as raw materials in light industries. Lectures were also held in the places where the team worked so that theory and practice can be more closely knitted together.

Based on its investigations and on botanical literature, the team has compiled the Handbook on Economically Significant Plants in Hu Meng, in which 1,232 wild plants are recorded. The team has also collected a large sampel of economically significant wild plants which have not been used in the past, including "Lang-tu," "Wu-t'ou," and "Tuan-ch'ang-ts'ao" [medicinal plants], plants containing fat such as "Ts'ang-erh" and "Ou-li," aromatic plants such as "Pai-li-hsien" and "Ling-su," fiber-containing plants such as those belonging to the Nepenthaceae and Juncaceae and in addition some plants containing rubber sap, starch or fruit.

Because of the close relationship between these investigations and practical production, the development and the use of wild plants in the local areas have been actively motivated. For instance, in the communes in Kan-ch'i-ka of K'o-tso-hou-ch'i and Chi-erh-ka-lang, the use of fiber plants such as Pedaliaceae has already been underway. In Cha-lu-t'e-chi, artificial cultivation of "Lo-pu-ma," a fiber plant, has been planned. Chin-ssu-wa-wa-ts'ao (belonging to Pteridophyta) has been clinically proved to be effective for curing brucellosis. "Tang-kuei" [a medicinal herb] which in the past had to be shipped in, can now be grown locally.

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END